

IN THE SPECIFICATION:

Please amend the specification as follows:

On page 1, just below the title, insert the following:

CROSS REFERENCE TO RELATED APPLICATION

This application claims priority to European Application 02256036.1, filed August 20, 2002, the entire contents of which are incorporated herein by reference.

Please amend paragraph [0002] as follows:

[0002] The term “patterning device” as here employed should be broadly interpreted as referring to device that can be used to endow an incoming radiation beam with a patterned cross-section, corresponding to a pattern that is to be created in a target portion of the substrate. The term “light valve” can also be used in this context. Generally, the pattern will correspond to a particular functional layer in a device being created in the target portion, such as an integrated circuit or other device (see below). An example of such a patterning device is a mask. The concept of a mask is well known in lithography, and it includes mask types such as binary, alternating phase-shift, and attenuated phase-shift, as well as various hybrid mask types. Placement of such a mask in the radiation beam causes selective transmission (in the case of a transmissive mask) or reflection (in the case of a reflective mask) of the radiation impinging on the mask, according to the pattern on the mask. In the case of a mask, the support ~~structure~~ will generally be a mask table, which ensures that the mask can be held at a desired position in the incoming radiation beam, and that it can be moved relative to the beam if so desired.

Please amend paragraph [0003] as follows:

[0003] Another example of a patterning device is a programmable mirror array. One example of such an array is a matrix-addressable surface having a viscoelastic control layer and a reflective surface. The basic principle behind such an apparatus is that, for example, addressed areas of the reflective surface reflect incident light as diffracted light, whereas unaddressed areas reflect incident light as undiffracted light. Using an appropriate filter, the undiffracted light can be filtered out of the reflected beam, leaving only the diffracted light

behind. In this manner, the beam becomes patterned according to the addressing pattern of the matrix-addressable surface. An alternative embodiment of a programmable mirror array employs a matrix arrangement of tiny mirrors, each of which can be individually tilted about an axis by applying a suitable localized electric field, or by employing piezoelectric actuators. Once again, the mirrors are matrix-addressable, such that addressed mirrors will reflect an incoming radiation beam in a different direction to unaddressed mirrors. In this manner, the reflected beam is patterned according to the addressing pattern of the matrix-addressable mirrors. The required matrix addressing can be performed using suitable electronics. In both of the situations described hereabove, the patterning device can comprise one or more programmable mirror arrays. More information on mirror arrays as here referred to can be seen, for example, from U.S. Patents 5,296,891 and 5,523,193, and WO 98/38597 and WO 98/33096. In the case of a programmable mirror array, the support structure may be embodied as a frame or table, for example, which may be fixed or movable as required.

Please amend paragraph [0004] as follows:

[0004] Another example of a patterning device is a programmable LCD array. An example of such a construction is given in U. S. Patent 5,229,872. As above, the support structure in this case may be embodied as a frame or table, for example, which may be fixed or movable as required.

Please amend paragraph [0006] as follows:

[0006] Lithographic projection apparatus can be used, for example, in the manufacture of integrated circuits (ICs). In such a case, the patterning device may generate a circuit pattern corresponding to an individual layer of the IC, and this pattern can be imaged onto a target portion (e.g. comprising one or more dies) on a substrate (silicon wafer) that has been coated with a layer of radiation-sensitive material (resist). In general, a single wafer will contain a whole network of adjacent target portions that are successively irradiated via the projection system, one at a time. In current apparatus, employing patterning by a mask on a mask table, a distinction can be made between two different types of machine. In one type of lithographic projection apparatus, each target portion is irradiated by exposing the entire mask pattern onto the target portion at once. Such an apparatus is commonly referred to as a

wafer stepper. In an alternative apparatus, commonly referred to as a step-and-scan apparatus, each target portion is irradiated by progressively scanning the mask pattern under the ~~projection~~ beam in a given reference direction (the "scanning" direction) while synchronously scanning the substrate table parallel or anti-parallel to this direction. Since, in general, the projection system will have a magnification factor M (generally  $< 1$ ), the speed V at which the substrate table is scanned will be a factor M times that at which the mask table is scanned. More information with regard to lithographic devices as here described can be seen, for example, from U.S. Patent 6,046,792.

Please amend paragraph [011] as follows:

[0011] This and other aspects are achieved according to the invention in a lithographic apparatus including a radiation system configured to supply a ~~projection~~ beam of radiation, the ~~projection~~ beam of radiation being patterned by a patterning device; a substrate table configured to hold a substrate; a projection system configured to project the patterned beam onto a target portion of the substrate; a processing unit configured to process the substrate before and/or after it has been exposed by the ~~projection~~ beam; a transport unit configured to transport the substrate between the substrate table and the processing unit; and a contamination control device configured to control the partial pressure of  $H_2O$  in the transport unit to be less than  $1 \times 10^{-2}$  mbar, the partial pressure of hydrocarbons in the transport unit to be less than  $1 \times 10^{-4}$  mbar and the partial pressure of amine bases, such as ammonia, in the transport unit to be less than  $1 \times 10^{-6}$  mbar.

Please amend paragraph [0015] as follows:

[0015] Alternatively, the partial pressure of  $H_2O$  and other contaminants in the transport unit may be controlled by providing a substantially contaminant-free gas to the transport unit. Again this obviates the need for conditioning and filtering the gas in the transport unit. Examples of such a contaminant-free gas include substantially pure nitrogen and synthetic air (a mixture of substantially pure nitrogen and substantially pure oxygen). This option for controlling the partial pressure ~~[[oaf]]~~ of  $H_2O$  in the transport unit is also advantageous since it is relatively simple to effect.

Please amend paragraph [0018] as follows:

[0018] According to a further aspect of the invention there is provided a device manufacturing method including ~~providing a substrate that is at least partially covered by a layer of radiation-sensitive material~~; projecting a patterned beam of radiation onto a target portion of ~~[[the]]~~ a layer of radiation-sensitive material at least partially covering a substrate; and transporting the substrate in a transport unit with a partial pressure of H<sub>2</sub>O in the transport unit less than  $1 \times 10^{-2}$  mbar, a partial pressure of hydrocarbons in the transport unit less than  $1 \times 10^{-4}$  mbar, and a partial pressure of amine bases in the transport unit less than  $1 \times 10^{-6}$  mbar.

Please amend paragraph [0027] as follows:

[0027] The source LA (e.g. a discharge or laser-produced plasma source) produces radiation. This radiation is fed into an illumination system (illuminator) IL, either directly or after having traversed a conditioning device, such as a beam expander Ex, for example. The illuminator IL may comprise an adjusting device AM configured to set the outer and/or inner radial extent (commonly referred to as  $\sigma$ -outer and  $\sigma$ -inner, respectively) of the intensity distribution in the ~~projection~~ beam PB. In addition, it will generally comprise various other components, such as an integrator IN and a condenser CO. In this way, the ~~projection~~ beam PB impinging on the mask MA has a desired uniformity and intensity distribution in its cross-section.

Please amend paragraph [0032] as follows:

[0032] 2. In scan mode, essentially the same scenario applies, except that a given target portion C is not exposed in a single “flash.” Instead, the mask table MT is movable in a given direction (the so-called “scan direction”, e.g., the Y direction) with a speed v, so that the projection beam PB is caused to scan over a mask image. Concurrently, the substrate table WT is simultaneously moved in the same or opposite direction at a speed  $V = Mv$ , in which M is the magnification of the lens PL (typically,  $M = 1/4$  or  $1/5$ ). In this manner, a relatively large target portion C can be exposed, without having to compromise on resolution.

Please amend paragraph [0039] as follows:

[0039] As depicted in Figure 2, the transport unit 5 may include a plurality of substrate handling robots 15 that transfer the substrates between the different sections of the transport [[wait]] unit 5 and the chamber 10, the processing unit 11, bake-chill unit 12, and/or the loading station 14 attached to the transport unit 5. It will be appreciated, however, that, depending on the circumstance, the transport unit 5 may include a single wafer handling robot 15 or may include some other transport apparatus, for example a conveyor belt.